Remarks

Status of the Claims

Claims 24-31 are pending in this application. Claims 27 and 28 are amended. Support for the amendment of these claims can be found throughout the specification and in claim 27. In addition, new claims 32 and 33 have been added. Support for these claims can be found throughout the specification and specifically on page 26, lines 8-14. Reconsideration of the rejected claims is respectfully requested.

Priority claim

Applicants thank the Examiner for acknowledging the claim for priority to International Application No. PCT/JP04/019393, filed December 24, 2004. However, International Application No. PCT/JP04/019393 rightfully claims the benefit of Japanese Patent Application No. 2003-435085, filed December 26, 2003. Therefore, Applicants are entitled to the priority date of December 26, 2003.

A certified copy of the priority applications was submitted to the Office with the current application June 22, 2006. Submitted herewith is a faithful translation of the Japanese priority application. Applicants request reconsideration of the priority date.

Rejections under 35 U.S.C. § 103(a)

Claims 24-31

Claims 24-31 are rejected under U.S.C. § 103(a) as allegedly obvious over Player *et al.* (International Patent Publication WO 2004/096795) and Nakagawa *et al.* (U.S. Patent No. 5,707,987) in view of Schubert *et al.* (U.S. Patent Publication US 2006/0094081).

Claim 24, the only independent claim recites "[a] method for the treatment of a viral infection in a subject in need thereof, comprising administering to the subject in need of treatment for the viral infection, in an amount effective to treat the viral infection, an aniline derivative represented by [] formula (I)..." The Examiner contends that Player *et al.* and Nakagawa *et al.* teach aniline derivatives of formula (I). The Examiner further contends that

Player *et al.* teaches the inhibition of C-fms kinase by the aniline derivatives of formula (I). The Examiner admits (page 4 of the Office action) that neither of these references teach using the compounds of formula (I) for inhibition of C-fms kinase to treat viral infections. The Office action relies on Schubert *et al.* as allegedly teaching the role of C-fms in viral infections to assert that it would be obvious to use the c-FMS inhibitor of formula (I) to treat a viral infection. Applicants traverse.

Schubert *et al.* describe the crystal structure of the C-fms kinase domain, and applications and use of heterologous substitutions of kinase insert domains for crystallization. The sole paragraph (numbered paragraph [0011]) of Schubert *et al.* directed to viral infections only states as follows:

> "Recent studies indicate that macrophages, infected with HIV-1, produce high levels of M-CSF related specifically to HIV-1 and not other viral infections. High levels of M-CSF appear to be important to sustain HIV replication in vitro [9], a fact that is also corroborated by inhibition of HIV-1 replication through M-CSF scavenging agents (anti-M-CSF monoclonal or polyclonal Antibodies or soluble M-CSF receptors). These results suggest that antagonists for the action of M-CSF may represent novel a strategy for inhibiting the spread of HIV-1."

Thus, Schubert *et al.* merely teach that high levels of M-CSF might be important to sustain HIV replication. Whether such an effect of M-CSF on HIV-1 replication requires its receptor to function or not is unknown. This is far short of providing a nexus between the inhibition C-fms kinase and treating a viral infection virus. The relationship between C-fms and HIV-1 replication is totally unknown and is not even the object of idle speculation in this reference. Thus, Schubert *et al.* fail to teach or suggest that viral infections could be treated by inhibiting C-fms kinase activity, and one of ordinary skill in the art would not have been motivated to produce the claimed methods for treating virus infection in view of Schubert *et al.* because there is not a reasonable expectation that such a treatment would be successful.

A reasonable expectation of success is required to support the assertion that a claim would have been *prima facie* obvious and that modification of the reference to yield the claimed subject matter would be predictable. M.P.E.P § 2143.02. Based on this single paragraph in

Schubert *et al.*, which fails to establish a nexus between C-fms and viral inhibition, one of ordinary skill in the art would not believe there would be any reasonable success in treating viral infections by inhibiting C-fms. A reasonable expectation of success requires something akin to the selection of amongst a finite number of identified, predictable solutions, with a reasonable expectation of success. M.P.E.P § 2143 (E). In the current rejection, the Office has not made the requisite factually findings under the "Obvious To Try" rationale that there were "a finite number of identified, predictable potential solutions to the recognized need or problem." M.P.E.P § 2143 (E). The Office has merely stated that one of ordinary skill in the art would have been motivated to select one of the compounds disclosed by Player *et al.* and Nakagawa *et al.* to treat a viral infection. Such an assertion is not supported by more than a conclusory statement. This statement does not meet the burden of factual inquiry imposed on the Office by the Supreme Court in *KSR International Co. v. Teleflex Inc. et al.*, 550 U.S. 82, 127 S.Ct. 1727 (S.Ct. 2007).

Furthermore, the first sentence of this paragraph only correlates M-CSF expression with HIV and "not other viral infections," and one of ordinary skill in the art would not believe that M-CSF expression has any relation to general mechanisms of viral infection.

For at least these reasons, one of ordinary skill in the art would not have been able to predict with any reasonable expectation of success that compounds of formula (I) would inhibit viral infection. The Office has not met its burden in establishing a *prima facie* case of obviousness and Applicants request that the rejection of claims 24-31 be withdrawn.

Claims 27 and 29-31

As amended, claims 27 and 29-31 are drawn to methods of treating a viral infection by one of several listed viruses, none of which human immunodificientcy virus (HIV). The paragraph of Schubert *et al.* reproduced above clearly indicates that only infections with HIV produced high levels of M-CSF, stating that "high levels of M-CSF related specifically to HIV-1 and <u>not other viral infections</u>." Thus, not only do Schubert *et al.* not teach the treatment of the viral infections listed in claims 27 and 29-31, this reference actually teaches away from the claimed method. Based on this paragraph (the only paragraph of Schubert *et al.* that mentions

viral infections), one of ordinary skill in the art would not believe there would be any reasonable success in treating the viral infections listed in claims 27 and 29-31 by inhibiting C-fms. In light of the arguments and amendments presented herein, the Office has not met its burden in establishing a *prima facie* case of obviousness with respect to claims 27 and 29-31. For these additional reasons Applicants request that the rejection of claims 27 and 29-31 be withdrawn.

New claims 32 and 33

The compounds recited in claims 32 and 33 and methods of using these compounds to treat viral infections were disclosed in the priority application (Japanese Patent Application No. 2003-435085, filed December 26, 2003). Thus, claims 32 and 33 are entitled to the filing date of Japanese Patent Application No. 2003-435085. The priority date claimed by Schubert *et al.* is October 22, 2004, which is after the priority date of the subject application. Therefore, Schubert *et al.* is not prior art to claims 32 and 33 under U.S.C. § 102 (a), (b) or (e). Because all of the Office's rejections rely on Schubert *et al.* these rejections cannot be applied to claims 32 and 33 and they are allowable.

Conclusion

Based on the foregoing, it is respectfully submitted that the present claims are in a condition for allowance and such notification is requested. If any additional issues remain prior to a Notice of Allowance, the Examiner is formally requested to contact the undersigned for a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. This request is being submitted under MPEP §713.01, which indicates that an interview may be arranged in advance by a written request.

Respectfully submitted,

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